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Coronavirus Disease 2019 (COVID-19): Emerging and Future Challenges for Dental and Oral Medicine

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We read with great interest the article by Meng et al. (2020) on the dental challenges raised by the current pandemic of coronavirus disease 2019 (COVID-19). They recommended the use of preoperative antimicrobial mouthrinse since the oral cavity is a high-risk route for COVID-19 infection. Following this, 2 recent reports by Kirk-Bayley et al. (2020) and Carrouel et al. (2020) also supported the use of antimicrobial mouthrinse to reduce the risk of COVID-19 infection. However, we believe that a word of caution is currently needed before recommending the use of generic antimicrobial products because they can induce a detrimental shift on the oral ecosystem (Willis and Gabaldón 2020). For instance, it is now recognized that the use of antimicrobial mouthrinse (chlorhexidine) inhibits bacterial species that are essential to promote vasodilation and to reduce blood pressure through an oral nitrate/nitrite/nitric oxide pathway (Bryan et al. 2017; Bescos et al. 2020). This is relevant in the current pandemic since people with hypertension, which is commonly associated with impaired nitric oxide availability, have the greatest risk of developing severe COVID-19 infection (Zhou et al. 2020). Furthermore, oral bacterial nitrite synthesis may be essential to improve the first line of immunologic response against viral infections (Rimmelzwaan et al. 1999). Research examining oral health and the oral microbiome is urgently needed as it may help to enhance our knowledge on the course of COVID-19 infection. We encourage researchers and dentists treating patients with COVID-19 to contact us to develop collaborative research in this area.

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